

the BCO range of BATTERY CHARGERS

The battery charging characteristic comprises three stages as follows:

1. BULK CHARGE

The charger delivers a closely controlled current to the battery. During this phase, about 75% of capacity is restored.

2. EQUALISATION (ABSORPTION) PHASE

The charger slowly reduces the current to maintain the battery at the 'boost' voltage. This brings the battery to about 98% charge without excessive gassing.

3. FLOATING

The battery voltage is allowed to drop to the 'float' voltage. The current from the charger is automatically adjusted to supply any loads connected to the battery and maintain the battery in the fully charged state.

This 3-stage charging system re-charges the battery both quickly and safely. The charging cycle starts automatically on application of the mains supply or can be initiated manually from the remote panel.

INSTALLATION

The charger must be firmly secured to a vertical surface in a ventilated compartment away from extremes of temperature and close to the batteries. The BCO chargers are fan cooled and there must be at least 10cm. clearance below the unit and the front ventilation slots must not be obstructed to avoid over-heating.

The battery must be connected to the charger BEFORE any connection is made to the AC mains supply. The battery to charger connections must be made with cable of appropriate cross-sectional area – at least 2.5 square mm for 15 amps, 6 square mm for 30 amps and at least 10 square mm for 60 amps. Two positive terminals (+) and two negative terminals (-) are provided. Only one of each need be used with thick cable, or both can be used with thinner cables. The cables should be secured with cable clips to prevent movement and possible chafing. The voltage drop in the charger-to-battery cables can be partially compensated for by connecting a cable (0.5 sq. mm) from the "+S" terminal to the battery positive terminal. If no cable is connected, then sensing is automatically performed at the output terminals of the charger. An optional remote battery temperature sensor may be connected across the two "temp" terminals. This will then automatically adjust the charger output voltage for optimum charging at all temperatures.

The AC input to the charger should be made via a circuit breaker of 10 amp rating on the main control panel. The earth wire MUST be connected to the system safety earth.

IMPORTANT

The installation of this battery charger is straightforward, but it must be remembered that the AC mains input voltage is dangerous and that lead-acid batteries store large amounts of energy which could cause a fire hazard if short-circuited. If you are in any doubt at all, have the charger installed by a competent marine electrician.

SPECIFICATION

INPUT VOLTAGE RANGE

180V to 270V AC 47 to 63Hz

EFFICIENCY

over 80% at 230V input

OUTPUT VOLTAGE & CURRENT

BCO 12/60-1

float voltage 13.8V, boost voltage 14.4V
output current 60A

BCO 24/30-1

float voltage 27.6V, boost voltage 28.8V
output current 30A

BCO48/15-1

float voltage 55.2V, boost voltage 57.6V
output current 15A

SIZE

213wide x 275high x 85deep mm

MAXIMUM AMBIENT TEMPERATURE

fully rated from -10C to +55C

PROTECTION

extensive protection facilities are built into the BCO chargers for optimum reliability. These include protection against short-circuit, input under-voltage, output over-voltage and excessive temperature.

OPTIONS

1. PRP1 remote panel gives remote indication of battery charger status and manual starting of the AUTOBOOST cycle.

2. PTS1 temperature sensor measures the battery temperature and adjusts the charger output voltage accordingly for safe charging at elevated ambient temperatures

the BCO range of battery chargers
are designed and manufactured in the

U.K.